

REMARKS

Claims 1-42 are pending in the application. Claims 11-42 stand rejected to by the Examiner. The Examiner's objections and rejections are addressed below in substantially the same order as in the office action.

CLAIM OBJECTIONS

Claim 39 is objected to because of the following informalities: the recitation of “the formation stored” has been revised to “the formation fluid” as suggested by the Examiner.

REJECTIONS UNDER 35 USC § 102

Claims 1, 2, 5-8, 12, 16, 19, 21-23, 27 and 36-42 stand rejected under 35 U.S.C. 102(a) as being anticipated by US Patent 4,589,434 to Kelley. Kelley teaches an apparatus that prevents hydrate formation in subsea oil and gas pipelines. The apparatus is used in connection with a marine riser and reduces the pressure on the fluids in a shut in pipeline by displacing fluids in the system into a reservoir. (Abstract). The apparatus 32 is positioned in a reservoir 11 that is coupled to a pipe 18 between a satellite platform 21 and a central platform 23.

With respect to amended claim 1, Kelley does not teach or suggest injecting at least one chemical into a production fluid flowing from a subsea well to a surface location. Rather, as explained above, the apparatus is positioned along a pipeline between a satellite platform 21 and a central platform 23. Furthermore, the Kelley apparatus, to Applicant's reading, does not inject chemicals into a flowing production fluid. At Col. 5, lines 60-62, Kelley indicates that there are no liquids in the reservoir when the pipe line is flowing wellstream fluid:

When the pipeline system 18 is transporting full wellstream fluids, the fluid reservoir 11 is full of pressurized gas and contains no liquids. When the pipeline system 18 is shut down, a fixed amount of fluid remains in the first riser section 20, the second riser section 22 and the seafloor transfer pipeline 12. After shutdown, the pressure on the gas in the fluid reservoir 11 is reduced to allow full wellstream fluids from the pipeline system 18 to enter the fluid reservoir 11.

Thus, Kelley teaches an apparatus that is structurally and functionally distinct from the invention as claimed in claim 1. Because Kelley does not teach each and every recitation of claim 1, claim 1 is in condition for allowance.

Claims 2, 5, 6, 16 and 22-23 depend from claim 1, which for the reasons described above is allowable over Kelley, thus, Claims 2, 5, 6, 16 and 22-23 are also believed to be in condition for allowance.

With respect to amended claim 8, Kelley does not teach or suggest a subsea chemical injection unit positioned proximate a subsea well. Rather, as described above, the Kelley apparatus is positioned in a reservoir that is coupled to a pipe between a satellite platform and a central platform. Because Kelley does not teach each and every recitation of claim 8, claim 8 is in condition for allowance.

With respect to amended claim 12, Kelley does not teach or suggest a subsea chemical injection unit having a manifold for mixing at least two chemicals prior to injecting the at least two chemicals into the production fluid as the production fluid flows from the at least one subsea well. Rather, as described above, the Kelley apparatus does not operate while production fluid is flowing from a subsea well. Because Kelley does not teach each and every recitation of claim 12, claim 12 is in condition for allowance.

With respect to amended claim 19, Kelley does not teach or suggest a subsea chemical injection unit that separately supplies at least one chemical to a plurality of subsea wells. Rather, as described above, the Kelley apparatus is not used in connection with a subsea well. Because Kelley does not teach each and every recitation of claim 19, claim 19 is in condition for allowance.

With respect to amended claim 21, Kelley does not teach or suggest a subsea chemical injection unit that injects the at least one chemical into one of (i) the at least one subsea well, and (ii) a subsea pipeline coupled to the at least one subsea well and, the subsea pipeline carrying the production fluid. Rather, as described above, the Kelley apparatus is positioned in a reservoir that is coupled to a pipe between a satellite platform and a central platform. Because Kelley does not teach each and every recitation of claim 21, claim 21 is in condition for allowance.

With respect to amended claim 36, Kelley does not teach or suggest injecting at least one chemical into a production fluid flowing from a subsea well to a surface location and before the production fluid reaches a surface location. Rather, as explained above, the apparatus is positioned along a pipeline between a satellite platform 21 and a central platform 23. Furthermore, as noted above, the Kelley apparatus, to Applicant's reading, does not inject chemicals into a flowing production. Because Kelley does not teach each and every recitation of claim 36, claim 36 is in condition for allowance.

Claims 37-42 depend from claim 36, which for the reasons described above is allowable over Kelley. Thus, Claims 37-42 are also believed to be in condition for allowance.

REJECTIONS UNDER 35 USC § 103

Claims 3,4, 13,17,18,24,30.31 and 35

Claims 3, 4, 13, 17, 18, 24, 30 .31 and 35 stand rejected under 35 U.S.C. 103 as being obvious over Kelley in view of Lievois. The Examiner cites to Lievois for its teachings relating to injecting hydrate inhibiting chemicals. However, Lievois has no teachings as to injecting hydrate inhibiting chemicals into a production fluid flowing out of a wellhead. Because, the combination of Kelley and Lievois does not teach each and every recitation of claims 3, 4, 13, 17, 18, 24, these claims are believed to be in condition for allowance.

Claims 9-11

Claims 9-11 stand rejected under 35 U.S.C. 103 as being obvious over Kelley in view of Zou et al. The Examiner cites to Zou for its teachings relating to a platform and supply units. However, Zou et al, like Lievois, has no teachings as to injecting hydrate inhibiting chemicals into a production fluid flowing out of a wellhead. Because, the combination of Kelley and Zou et al does not teach each and every recitation of claims 9-11, these claims are believed to be in condition for allowance.

Claims 14 and 15

Claims 14 and 15 stand rejected under 35 U.S.C. 103 as being obvious over Kelley in view of Zhang et al. The Examiner cites to Zhang et al for its teachings relating to power supplies. However, Zhang et al, like Lievois, has no teachings as to injecting hydrate inhibiting chemicals into a production fluid flowing out of a wellhead. Because, the combination of Kelley and Zhang et al does not teach each and every recitation of claims 14-15, these claims are believed to be in condition for allowance.

Claims 20, 28 and 29

Claims 20, 28 and 19 stand rejected under 35 U.S.C. 103 as being obvious over Kelley in view of Pogonowski et al. The Examiner cites to Pogonowski et al for its teachings relating to a refining production fluids. However, Pogonowski et al, like Lievois, has no teachings as to injecting hydrate inhibiting chemicals into a production fluid flowing out of a wellhead. Because, the combination of Kelley and Pogonowski et al does not teach each and every recitation of claims 20, 28 and 19, these claims are believed to be in condition for allowance.

Claims 25 and 26

Claims 25 and 26 stand rejected under 35 U.S.C. 103 as being obvious over Kelley in view of Tubel et al. The Examiner cites to Zhang et al for its teachings relating to sensors. However, Tubel et al, like Lievois, has no teachings as to injecting hydrate inhibiting chemicals into a production fluid flowing out of a wellhead. Because, the combination of Kelley and Tubel et al does not teach each and every recitation of claims 25 and 26, these claims are believed to be in condition for allowance.

Claims 32-34

Claims 32-34 stand rejected under 35 U.S.C. 103 as being obvious over Kelley in view of Lievois et al and Zou et al. As noted above, neither Lievois et al nor Zou et al, like Lievois, have teachings as to injecting hydrate inhibiting chemicals into a production fluid flowing out of a wellhead. Because, the stated combination does not teach each and every recitation of claims 32-34, these claims are believed to be in condition for allowance.

CONCLUSION

For all the foregoing reasons, Applicant submits that the application is in a condition for allowance. No fee is believed due for this paper. The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to Deposit Account No. **02-0429 (194-26936-US)**.

Respectfully submitted,

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